

# Cambodia

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**Contact**

Country not member of COGENT  
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Cambodia is located in Southern Asia, bordering the Gulf of Thailand, between Thailand, VietNam and Laos. In Cambodia, there is no large-scale commercial cultivation of coconut palms or coconut industry. Cambodia is not a country member of COGENT, although Coconut varieties from Cambodia are conserved in COGENT member countries.

In Cambodia, coconut palms are the main feature of family gardens, where both green and mature coconuts provide regular income. A preliminary survey conducted in 2004 showed that there were at least 12 million coconut palms in Cambodia (Vanhan 2007). In late 2001, coconut beetle (*B. longissima*) was recorded as a new pest in Cambodia. The first infestations were recorded in an area near the Vietnamese border, especially in young coconut plantations. Within two years it had spread over the whole country. This new threat caused significant damage to coconut trees (on average 74% of coconut palms were attacked, resulting in 21% mortality). To combat this problem, the Department of Agronomy and Agricultural Land Improvement (DAALI) of the Ministry of Agriculture Forestry and Fisheries took actions (phytosanitary measures, pest outbreak intervention via insecticide application and extension work on control measures) to control the spread of the pest. Unfortunately, the beetle is still established and inflicting significant damage in Cambodia.

In 1969, just before the outbreak of the Cambodian civil war, almost 1300 seednuts were collected and imported into Côte d'Ivoire by a French agronomist, CE Briolle. Four closely related coconut varieties of 'Cambodia Tall' from the localities of Ream, Sre Cham, Battambang and Koh Rong were collected either from plantations or directly from local markets.

**Reference**

Vanhan H. 2007. Coconut beetle management in Cambodia. In: Appanah S, Sim HC, Sankaran KV, editors. Developing an Asia-Pacific Strategy for Forest Invasive Species: the Coconut Beetle Problem – Bridging Agriculture and Forestry. Report of the Asia-Pacific Forest Invasive Species Network Workshop, 22–25 February 2005, Ho Chi Minh City, Viet Nam. Food and Agriculture Organization of the United Nations Regional Office for Asia and the Pacific, Bangkok. pp. 37-46.

## Cambodia Tall Koh Rong (KAT10)

*Bourdeix R, Konan JL, Ballo K*

### Conservation

Cambodia Tall Koh Rong (KAT10), which originates from the island of Koh Rong, is only conserved in Côte d'Ivoire, where the 184 palms planted in 1969 and 1987 are still alive.

### History

Koh Rong is one of four large islands off the coast of Cambodia that extends over more than 400 km between the Thai and Vietnamese borders. The word 'Kho' means 'island' in Thai. In 1969, just before the outbreak of the Cambodian civil war, almost 1300 seednuts were collected and imported into Côte d'Ivoire by the French agronomist, CE Briolle. Four closely related coconut varieties of 'Cambodia Tall' from the localities of Ream, Sre Cham, Battambang and Koh Rong were collected either from plantations or directly from local markets.

### Identification

The Cambodia Tall Koh Rong is typical of the Southeast Asian varieties. It has rapid growth, and possesses a thick straight stem, long fronds and large fruits. It is not easy to differentiate it from the Tagnanan Tall (Philippines) or from the Malayan Tall. Compared to the latter varieties, the Cambodian palms are of a more uniform green colour, and far fewer palms bear brown or red fruits. The fruits are also more oval than those of the Malayan or Tagnanan Talls. The inner nut is rounded, often wider than long, and rarely has the ligneous point found at the tip of the shell in other Talls with large fruits, such as the Malayan, Panama, and especially Rennell Island Talls. The fruits weigh an average of 1762g and are rich in meat (545g) and free water (450ml). Fruit germination is particularly rapid, and is complete around 12 weeks after sowing, when African Tall palms are only just beginning to germinate.

### Yield and production

The Cambodian Tall Koh Rong starts bearing slowly. From 6 to 8 years after planting, it only produces 26 fruits per palm per year on average under Ivorian conditions. Thereafter, yields fluctuate from around 31 fruits per palm per year up to 13 years. They exceed 40 fruits on the 14th and 15th year. It is likely that production will continue to increase up to 20-25 years, but the slow bearing quality of this variety means that it cannot be recommended for commercial production.

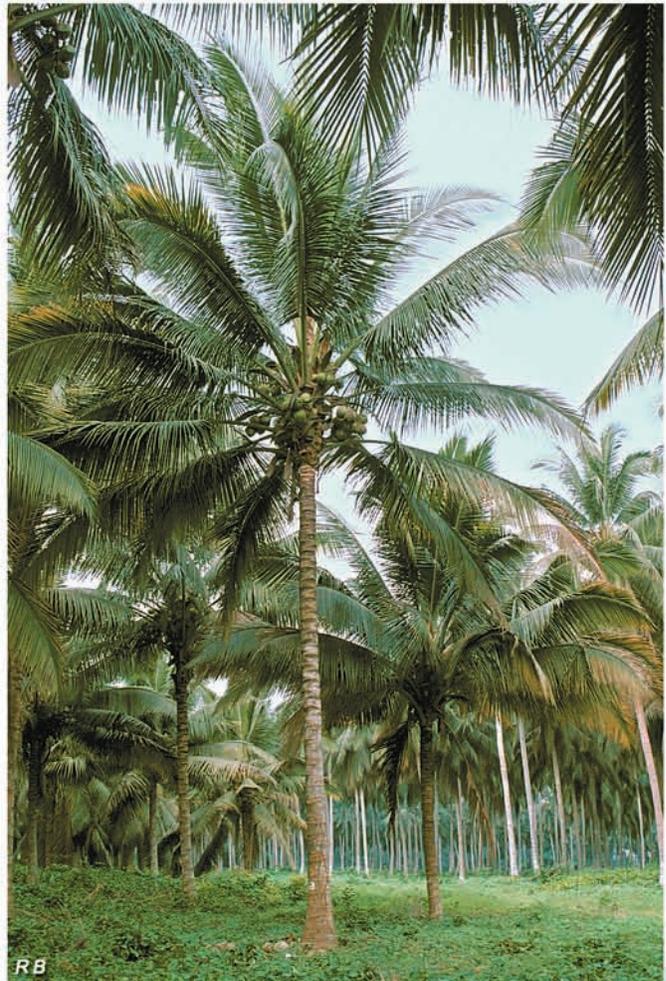
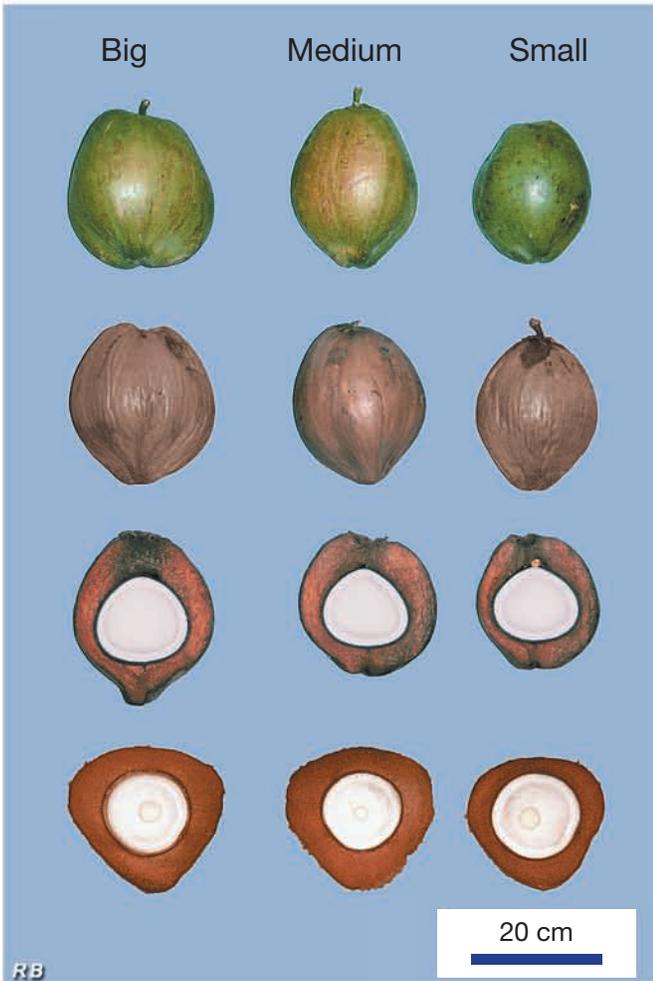
### Other information

Observation and analysis of four Cambodian varieties from Ream, Sre Cham, Battambang and Koh Rong showed them to be similar, or even identical. Little use has been made of Cambodian Talls in breeding programmes. In Côte d'Ivoire, the 'Ream' origin was crossed with the West African Tall and Mozambique Tall in the first genetic trial planted in 1965. The performance of the resulting hybrids was average, with adult palm yields producing around 3 t of copra per ha per year, 7 to 15% more than the West African Tall (WAT) control. The high kernel or copra content of their fruits does not compensate for their low fruit production.

### References

- Briolle CE. 1969. Le cocotier sur les terres de mangrove au Cambodge (1ère partie). *Oléagineux* 24(8-9):475-479.
- Briolle CE. 1969. Le cocotier sur les terres de mangrove au Cambodge. Aménagement des plantations familiales (2ème partie). *Oléagineux* 24(10):545-549.
- Bourdeix R, Konan JL, N'Cho YP. 2005. *Coconut. A guide to traditional and improved varieties*. Editions Diversiflora, Montpellier, France.

# Cambodia Tall Koh Rong (KAT10)



## Cambodia Green Dwarf (KGD)

*Bourdeix R, Konan JL, Ballo K*

### Conservation

Cambodia Green Dwarf (KGD) is conserved only in Côte d'Ivoire, where 92 true-to-type palms planted in 1970 are still alive. The material has not been rejuvenated to date.

### History

Old papers from the Marc Delorme Research Centre indicate that 420 coconuts of the variety 'Cambodia Green Dwarf' were sent to Africa from Sihanouk City (now Sihanoukville) in 1969 by CE Briolle, a French agronomist. The origin of these seednuts is encoded as Battambang Kolke. Battambang is the second city of Cambodia, a pleasant provincial town spanning the Sangker River. Surrounded by the town's main shops, there is a big central market where, most likely, the coconuts were very probably bought for collection. This is no longer being practised as collectors acquire seednuts from homogeneous and isolated plantations, instead of buying them from the market. Kolke is the name for a little lizard which usually lives inside the palm crown. This variety is said by CE Briolle to be typically Cambodian. In Côte d'Ivoire, 144 palms were initially planted in an experimental plot in 1970. Because of the great heterogeneity of the original introduction, KGD has been discarded from the coconut breeding programme in Côte d'Ivoire. This variety has never been tested as a parent palm for hybridization.

### Identification

In Africa, field observations showed that the KGD population is very heterogeneous. Some of the palms look like true Dwarf types, with a thin stem, about 20 to 25cm in diameter, and with little or no bole at the base. But other palms look like Tall types, hybrids or intermediate forms. Because of this great heterogeneity, only 54% of the original palms were finally considered as true Dwarf types. The fruits are oblong in shape and intermediate green colour. When the fruits begin to dry, the green colour becomes darker at the top of fruits than in the middle (see bunch picture).

### Yield and production

The average fruit weight of KGD in Côte d'Ivoire is 771g. The nuts without husk are spherical and weigh 551g. In Côte d'Ivoire, MGD starts to flower on average four years after field planting. KGD produces 38 fruits per palm per year when immature (mean 6-8 years) and 48 fruits per palm per year when mature (mean of 9-17 years).

### Other information

In Cambodia, coconut, including the Cambodia Green Dwarf, has been used for sugar production. It was reported that, in the context of harvestable energy from the coconut palm, the amount of energy harvested in the sap (through production of ethanol) could be five to seven times higher than from the oil of the nuts. The coconut palm yields 19 t per ha per year compared to sugarcane production (5-15 t per ha per year).

### References

- Jeganathan M. 1974. Toddy yields from hybrid coconut palms. *Ceylon Coconut Quarterly* 25:139-148.  
Banzon JA. 1984. Harvestable energy from the coconut palm. *Energy in Agriculture* 3:337-344.

Cambodia Green Dwarf (KGD)

